

DOCUMENT DATA FORM

Your Name: Nick Carino

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Drawing Book 8, chapter 6: Subgrade, Concrete wall and column details

Include work order no. and floor no. if applicable

Roll # DB03

Doc. ID (report #, dwg. #):

Document Date: 10-70

Document Author Name:

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SHC&R

KEYWORDS - HIGHLIGHT ALL THAT APPLY

Level 1

Bankers Trust	Project 4	WTC 1 - North Tower	Add
Below Grade	Project 5	WTC 2 - South Tower	
Concourse	Project 6	WTC 3 - Marriot Hotel	
Electrical Substation	Project 7	WTC 4 - South Plaza Bldg.	
Liberty Plaza	Project 8	WTC 5 - North Plaza Bldg	
PATH Station	WFC 1 - Oppenhiemer Dow	WTC 6 - Customs House	
PATH Terminal	WFC 2 - Tower B	WTC 7	
Project 1	WFC 3 - American Express	WTC Complex	
Project 2	WFC 4 - Tower D	WTC Plaza	
Project 3			

Level 2

Accident analysis & risk	Fire protection	Misc. Performance Problems	Structural
Architectural	Fire service	News coverage	Tenant alterations
Data request	Landscaping	Police	Tenant Space
Emergency management	Management	Security	Add
Evacuation	Mech./elec.		

Level 3

1993 explosion	Cranes	Frame	Roof	Weight
A/E fitout	Criteria	Frame analysis	Safety	Weld detail
A-242	Dampers	Frequency	Schedule	Weld size
A-36	Debris	Fuel	Sculpture	Welding
A-497	Deck	Furniture layout	Security system	Wind
Aircraft Impact	Deflection	Generators	Shear knuckle	Windows
Air cooled condensers	Demolition	Guidelines	Shear test	Yield strength
Analysis	Design	Gypsum board	Shear Stud	Add
Angles	Detailing	Hat truss	Shop drawings	Drawing books
Antenna	Doors	Human comfort	Shortening	
Artifacts	Drawings	HVAC	Slab	
Asbestos	Eastern States Steel	Index	Slurry wall	
Base plate	Egress	Inspection	Smoke control	
Beams	Elevator	Insulation	Smoke test	
Bid documents	Elevator Shaft	Job number	Spandrel beam	
Bid Invitation	Emergency	Joist	Specifications	
Bow tie	communications	L-50	Splices	
Bracing	Equipment	Lighting	Sprinkler	
Bridging truss	Erection marks	Loads	Stability	
Building code	Errors & Omissions	Maintenance	Stairways	
Calculations	Escalator	Marking	Standards	
Carpet	Expansion joint	Mesh reinforcement	Steel	
Ceilings	Exterior columns	Mill inspection	Steel composition	
Certification	Fabrication	Model	Stiffness	
Chillers	Family member	Mullion	Structural review	
Cladding	Field survey	Operations	Surveillance	
Columns	Fire alarms	Paint	Survey	
Communication systems	Fireproofing	Partition layout	Survivor	
Composite truss	Fire spread	Partitions	Tenant list	
Computer output	Fire testing	Photos	Tenant occupancy	
Computer program	Firetower	Pipes	Testing	
Concrete	Flag Pole	Plumbing	Tie	
Connections	Flammability	Prestressing	Tolerances	
Construction	Floor	Probability, uncertainty	Transfer Girders	
Contract	Floor load	Quality control	Triad	
Core beams	Floor slab	Ramp	Truss	
Core columns	Floor system	Reinforcing	Vestibule	
Corrosion	Floor trusses	(strengthening)	Vibration	
Cracking	Formwork	Renovation	Walls	
	Foundations	Repair	Water supply	
	Fracture	Research & Development	Weather	

WTCI-1066-LERA

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Structural & Civil Engineers

PROJECT THE WORLD, TRADE CENTER

TITLE CONCRETE TYPICAL DETAILS - INDEX

DATE 9/ 1/70

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- 8-JK6- 11.2 WALL AT STEEL COLUMNS
- 8-JK6- 11.3 WALL AT STEEL COLUMNS

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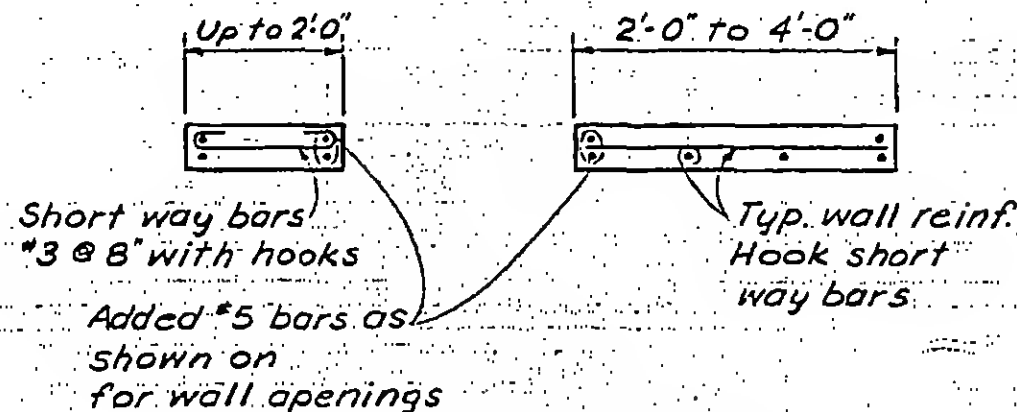
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PROJECT THE WORLD TRADE CENTER

TITLE TYPICAL CONCRETE WALL DETAILS

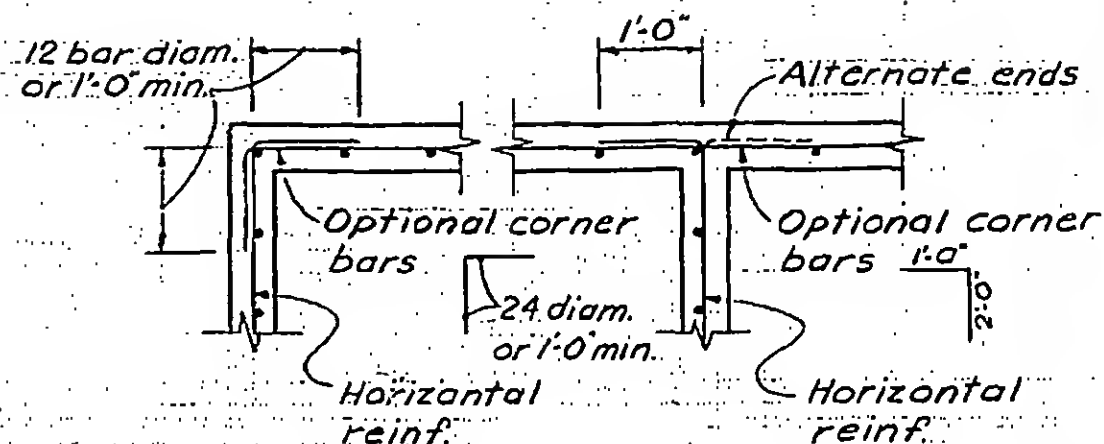
DATE 5-1-68

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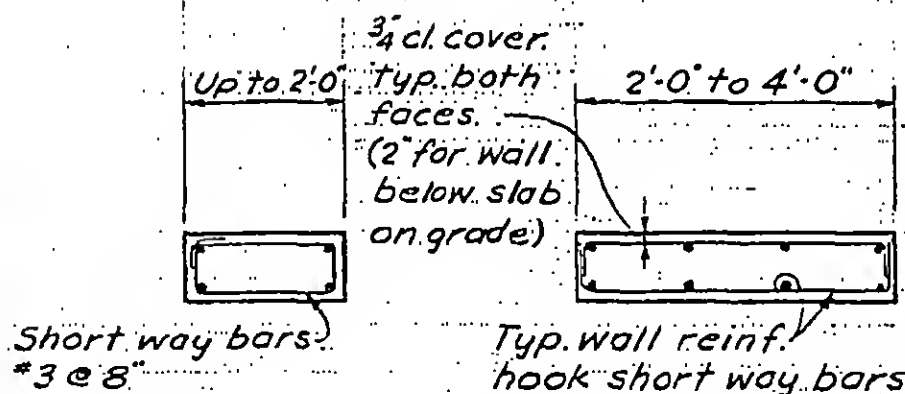
NOTE: Details apply in both horiz. & vert. directions

SMALL WALL SECTIONS



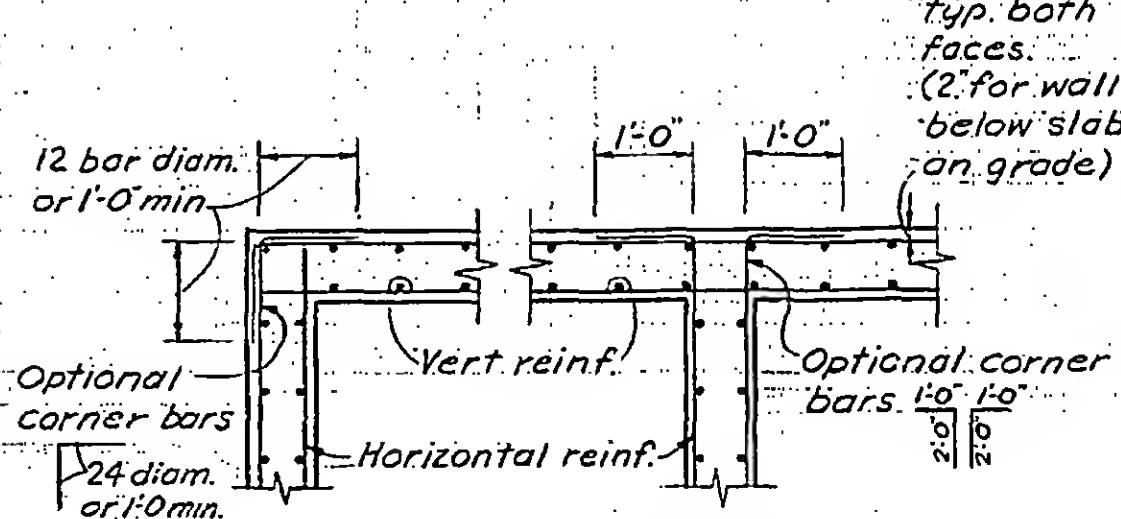
CORNER DETAILS

SINGLE CURTAIN REINFORCEMENT



NOTE: Details apply in both horiz. & vert. directions

SMALL WALL SECTIONS

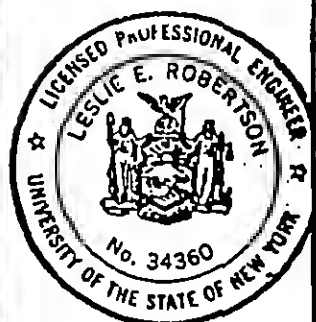


CORNER DETAILS

DOUBLE CURTAIN REINFORCEMENT

NOTE: Where spliced, the horizontal bars shall lap 27" diam. or 1'-6" min.

8-JKG-2.1



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\* MINIMUM WALL REINFORCEMENTS

WALL THICKNESS	VERTICAL BARS	HORIZONTAL BARS		LOCATION IN WALL
		WALLS BELOW SLAB ON GRADE	WALLS ABOVE SLAB ON GRADE	
4"	*3 @ 18"	*3 @ 11"	*3 @ 8"	Center
5"	*3 @ 15"	*4 @ 16"	*4 @ 11"	Center
6"	*4 @ 18"	*4 @ 13"	*5 @ 15"	Center
7"	*4 @ 17"	*4 @ 11"	*5 @ 13"	Center
8"	*4 @ 16"	*5 @ 15"	*5 @ 11"	Center
9"	*4 @ 14"	*5 @ 14"	*5 @ 10"	Center
10"	*4 @ 18"	*4 @ 16"	*4 @ 11"	Each face
11"	*4 @ 18"	*4 @ 14"	*4 @ 10"	Each face
12"	*4 @ 18"	*4 @ 13"	*5 @ 15"	Each face
13"	*4 @ 18"	*4 @ 12"	*5 @ 13"	Each face
14"	*4 @ 18"	*4 @ 11"	*5 @ 12"	Each face
15"	*4 @ 17"	*5 @ 16"	*6 @ 16"	Each face
18"	*4 @ 14"	*5 @ 14"	*6 @ 14"	Each face
20"	*4 @ 13"	*5 @ 12"	*6 @ 12"	Each face
27"	*5 @ 15"	*6 @ 13"	*7 @ 12"	Each face
30"	*5 @ 14"	*6 @ 16"	*8 @ 15"	Each face
36"	*6 @ 16"	*7 @ 13"	*8 @ 12"	Each face

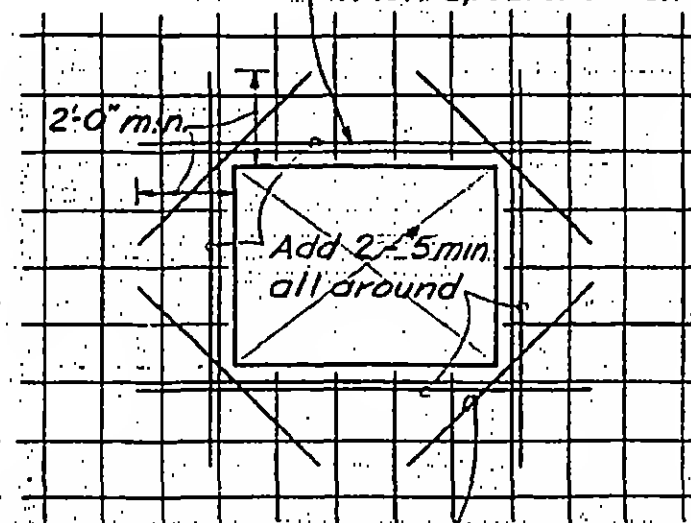
\* Unless otherwise shown on plans or details.

Note:

All reinforcement shall conform to ASTM A-432 with  $f_y$  60 ksi unless otherwise shown on sections or details.

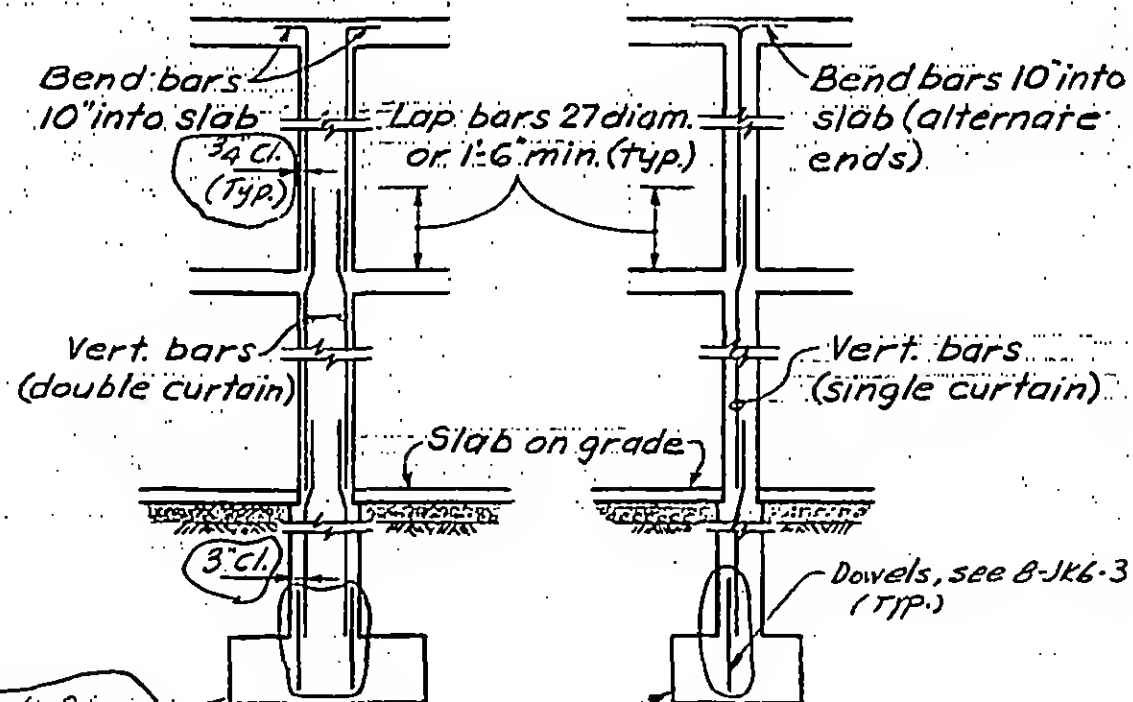
Wall frg. See 8-JK6-3

Omit the additional top bars when special steel is called for.



Add 1-#5 x 4'-0" diag. bars (2-#5 x 4'-0" in wall with double curtain reinf.) at each corner of all door openings, mech. openings, etc.

\* ADDITIONAL STEEL AT WALL OPENINGS



TYPICAL VERT. BAR SPLICES

8-JK6-2.2



DRAWN

S.C.

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TITLE TYPICAL CONCRETE WALL DETAILS

DATE 5-1-68

## REVISIONS

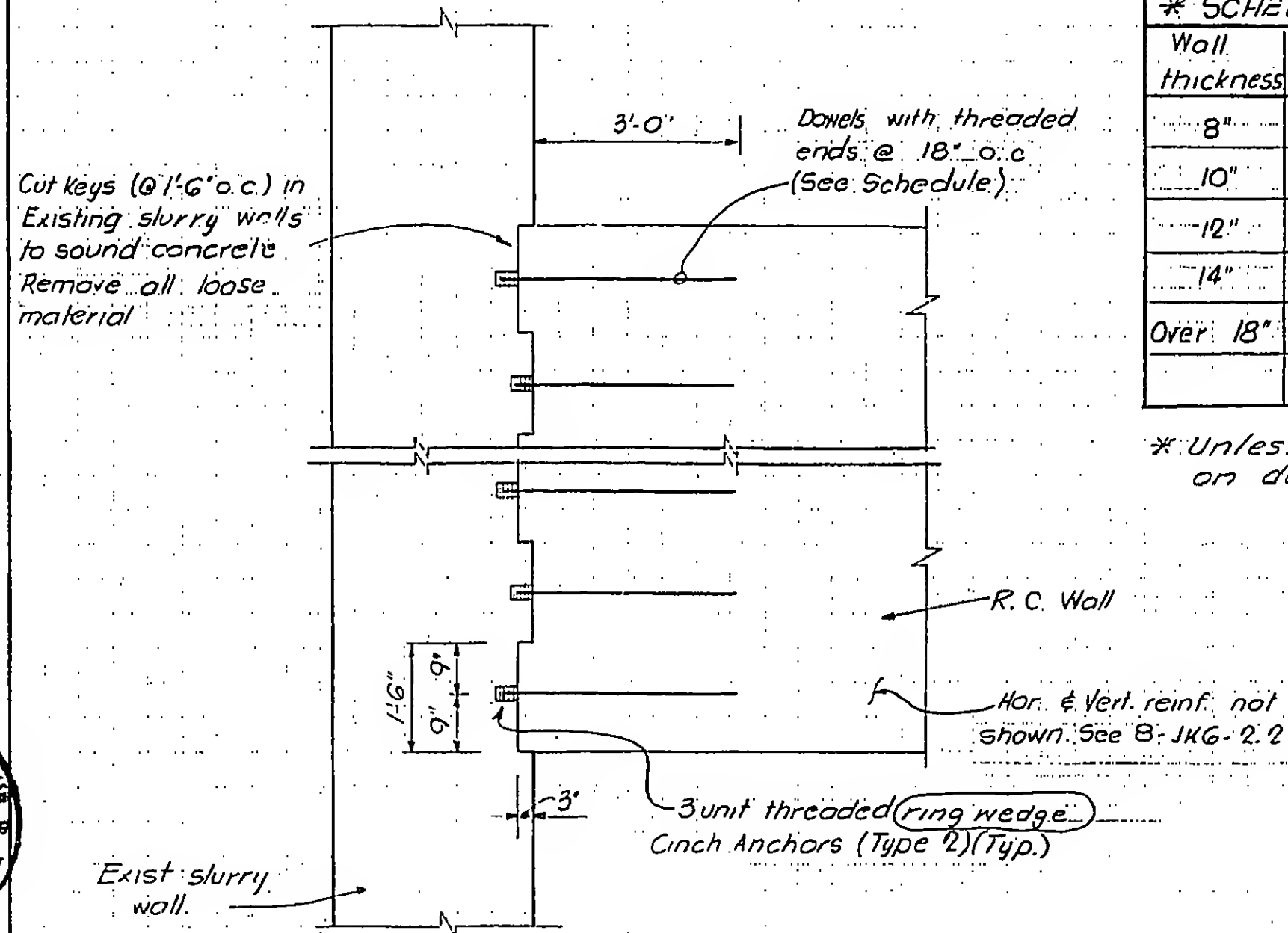
12-18-68

3-25-69

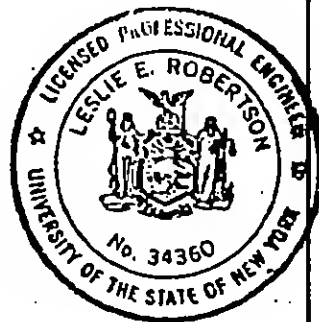
## \* SCHEDULE OF DOWELS

Wall thickness	Size of dowels	Location in wall
8"	3/4" $\phi$	Center
10"	3/4" $\phi$	Center
12"	7/8" $\phi$	Center
14"	7/8" $\phi$	Center
Over 18"	7/8" $\phi$	Ea. face

\* Unless otherwise noted on details.



TYPICAL DETAIL OF WALL FRAMING TO SLURRY WALL

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8-JKG-2.3

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TITLE TYPICAL WALL FOOTING-DETAILS

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Wall thickness  
see planWall reinf.  
See 8-JKG-2.2  
or as shown in DetailsWall thickness  
see planWall reinf. see  
8-JKG-2.2  
or as shown in DetailsDowels to match  
vert. reinf. in wallDowels to match  
vert. reinf. in wall

Slab on grade

Slab on grade

3" projection (Typ.)  
Except otherwise shown2-#5  
cont.  
Wall Ftg.Solid rock or  
elev. approved  
by Engineer

Width of footing

#4@12 except omit at  
footings less than 2'-0" wideWHERE WALL FOOTING IS DIRECTLY  
UNDER SLAB ON GRADE

## Notes:

1. For walls  $\geq 10'$  use double curtain reinf. 3" cl. from face of wall above grade and 3" cl. for walls below grade.
2. These details apply unless otherwise noted on plans and sections.

2'4" (Typ.)

3" projection (Typ.)  
Except otherwise shown

Wall Ftg.

2-#5 cont.

#4@12 except omit  
at footings less  
than 2'-0" wideSolid rock or  
elev. approved  
by Engineer

Width of ftg.

WHERE WALL FOOTING IS  
BELOW SLAB ON GRADE

8-JKG-3



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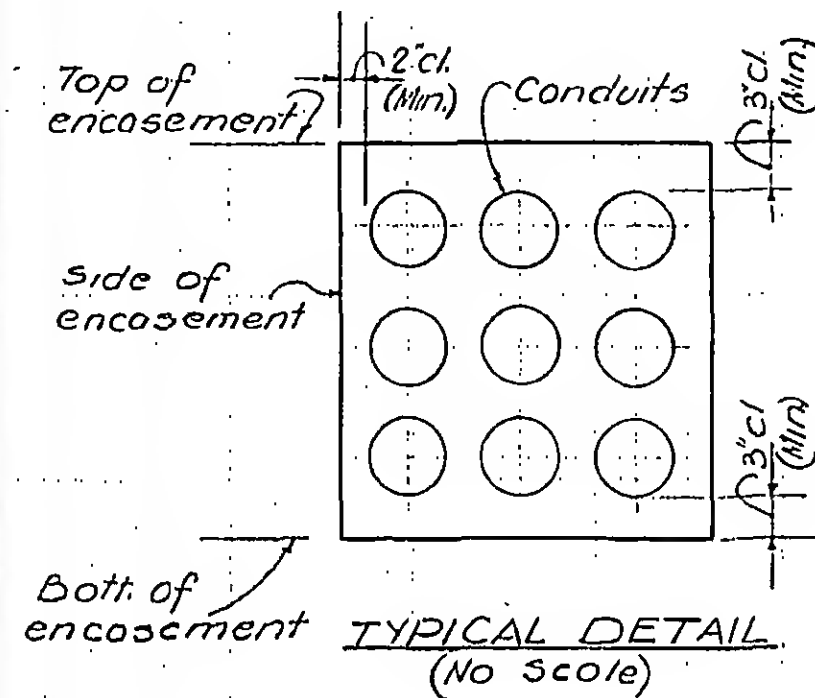
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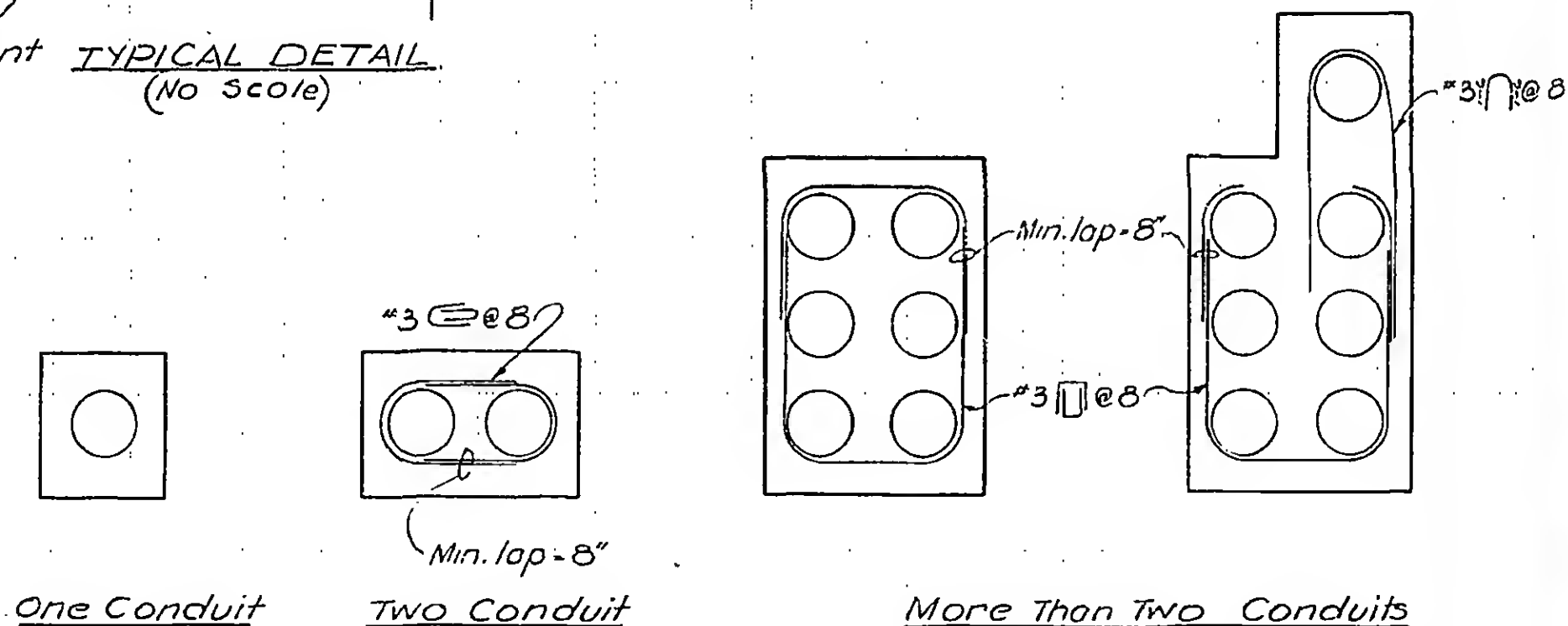
TITLE TYPICAL CONDUIT ENCASEMENT DETAIL

DATE 5-1-68

## REVISIONS

10-24-69 GEN.  
REV.

See Gibbs & Hills drawings  
for location & numbers  
of conduits, and dimension  
of conc. encasements



TYPICAL REINFORCEMENT  
(No Scale)



DESIGNED

DRAWN  
D.C. Huggins

REVIEWED

E.L.

8-JK 6-5

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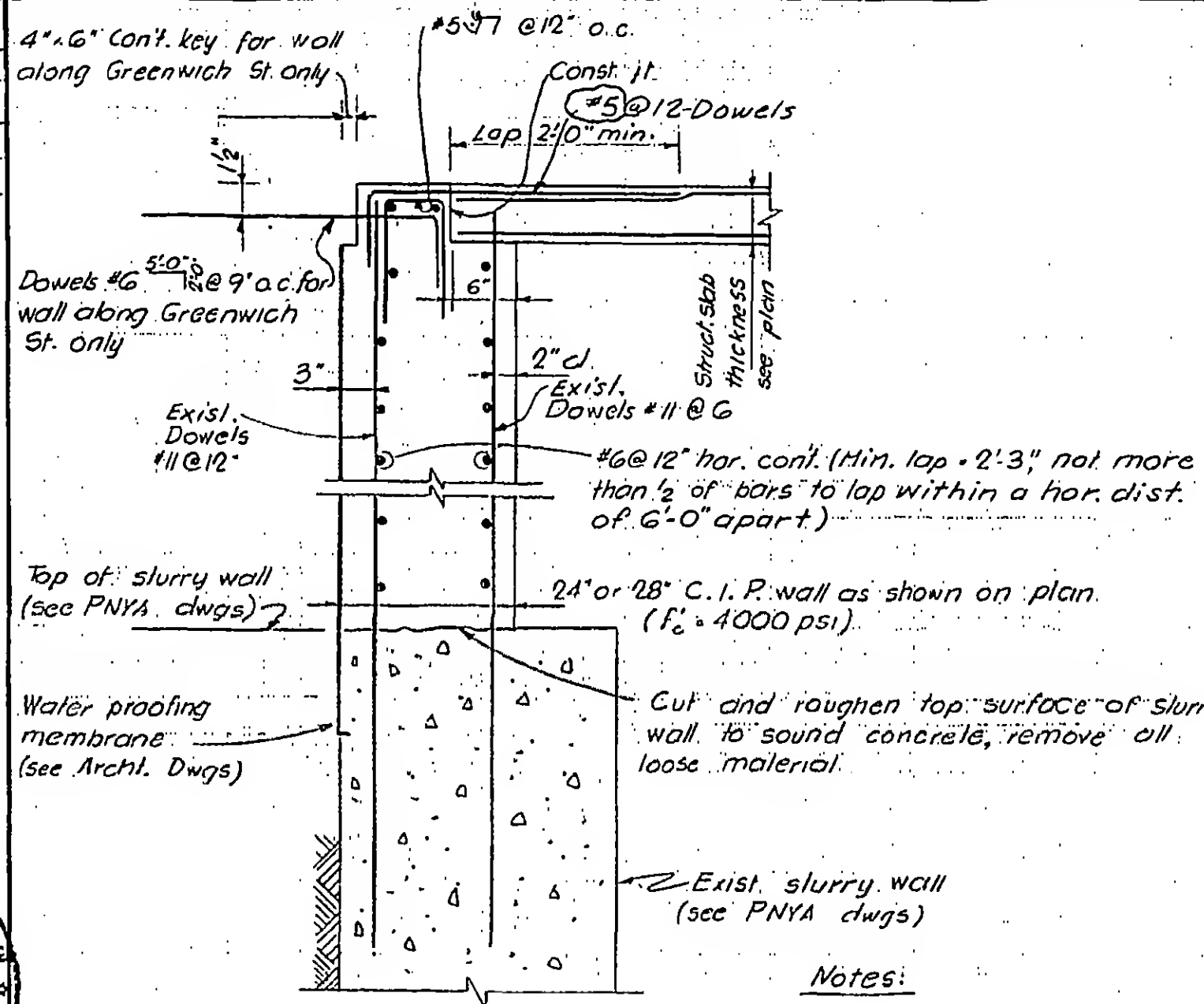
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TITLE TYP. DET. OF C.I.P. WALL OVER TOP OF SLURRY WALL

DATE 5-1-68

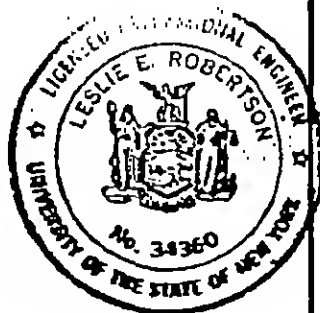
## REVISIONS

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1-17-69  
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5-12-69



## Notes:

1. See PNYA dwgs. for top elevation of all #11 vert dowels from slurry wall. Where req'd, some of the dowels have to be burned-off so as to maintain 2" cl. from top of struct. slab.
2. See 8-JK6-7 for typ. detail of steel beam over C.I. P. perimeter wall.
3. See 8-JK6-8 for detail of temp. telephone conduit supports and pockets at these sup'ts.



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8-JK6-6



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TITLE TYP. DET. OF STEEL BEAM OVER C.I.P. PERIMETER WALL

DATE 5-1-68

## REVISIONS

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1-24-69

3-25-69

When  $W \geq 9"$  add  $4 \times 4'0" @ 6"$   
ea. direction ( $3/4"$  cl. from  
inside face)

Const. joint may be  
formed at this level  
with rough surface.  
Remove or cut away  $W$   
all loose materials  
before the second pour

12" for beams of 30W  
or greater

18" for beams with  
cover  $R$  or  $R$  girder

3-#5  $\uparrow$

Provide #5  $\uparrow$  5'-0" @ 6" top  
where not otherwise called  
out on Plans

Top of struct. slab  
El. see plan

1" grout

2" ea. side  
of beam

overside holes  
thru beam  
flange

See 8-JK6-6 for  
other reinf. & details  
(incl. detail b/w beams)

24" C.I.P. Wall

Water proofing membrane  
(see Archt. Dwg.)

Exist. slurry wall  
(see PNYA dwg.)

3/4" base  $R$  (1" for 30W  
or larger beams)

6" (Typ.)

2-#5 A.B.  $\uparrow$  (4-#6 A.B. for  
beam with cover  $R$  or  
 $R$  girders)  
(see Note 1 below)

## Section a-a

## Notes:

1-Where height of C.I.P. wall ( $H$ ) is  
6" or less, #5 A. bolts may be  
replaced with Star SSS combination  
anchor drill of the same size.  
When  $H$  is greater than 6" but  
less than the projected length of  
#5 A. bolt, cut top of slurry wall  
to a point 4" below bottom of  
bolt and form C.I.P. wall as shown.



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S.C.

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E.L.

8-JK6-7

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THE WORLD TRADE CENTER

TITLE

TYPICAL DETAIL AT TOP OF SLURRY WALL ALONG WEST STREET

DATE

7-9-68

REVISIONS

10-21-68

Form pocket in c/p  
wall around tele  
supporting beam  
dry pack after  
removal.

Top of slurry wall  
(see PNYA DNGS.)

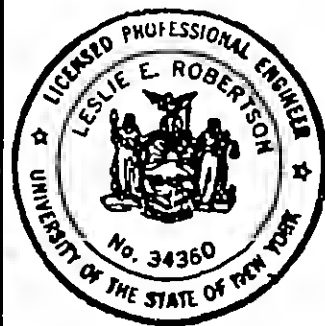
24" or 28" c/p wall (see 8-JK6-6)

CUT OFF PT.

Contractor to remove  
telephone conduit supports  
after floor at El. 294 is in  
place.  
(see PNYA dwg. for size &  
location of these members)

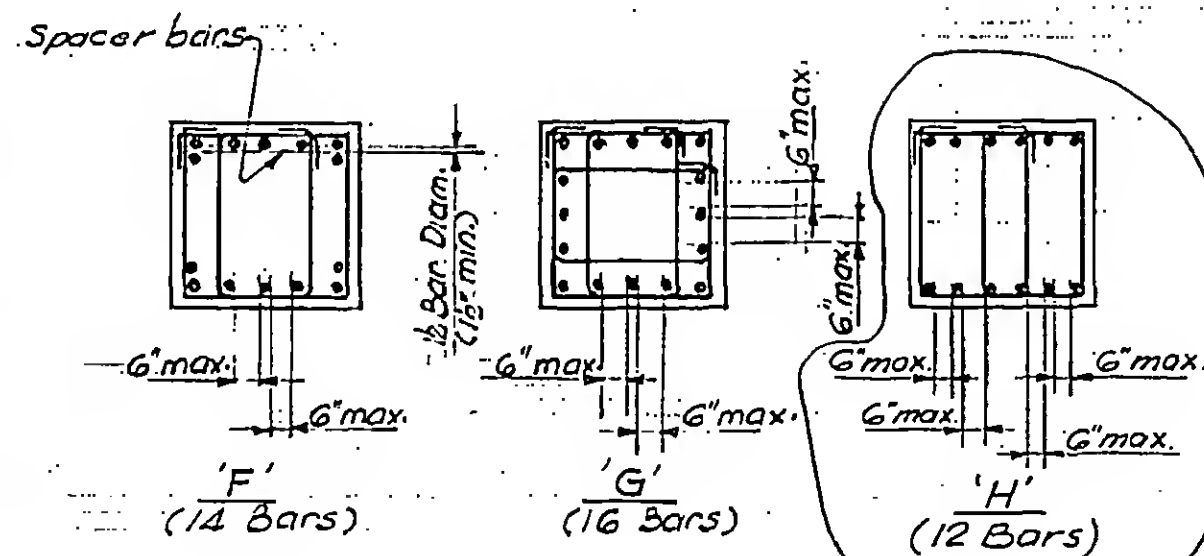
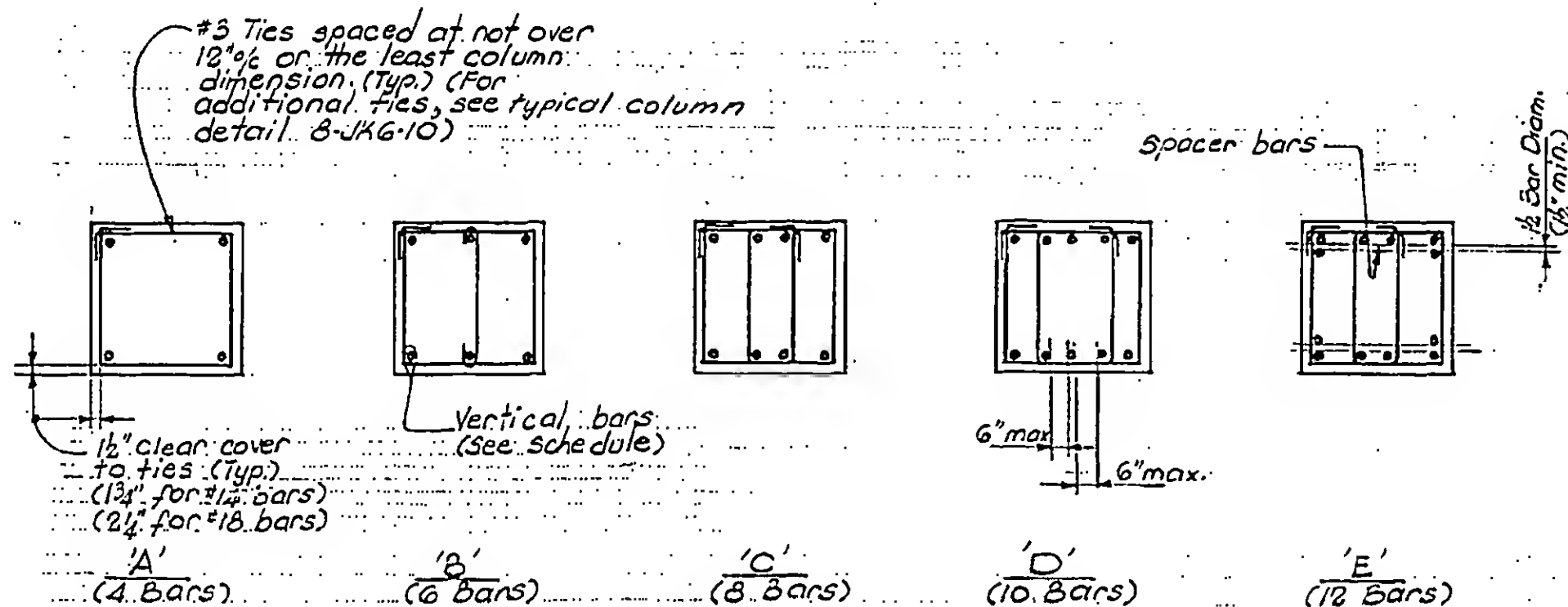
El. 294'-0"

Bot. of tele. sup't  
embedded in slab.



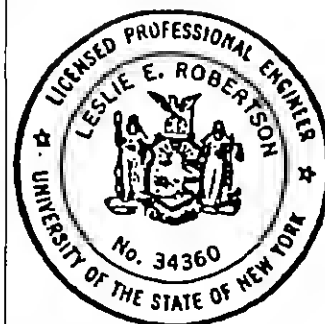
## REVISIONS

11-4-69



## NOTES:

1. All vertical bars to have  $F_y = 60 \text{ ksi}$  (ASTM A432-66)
2. All column ties to have  $F_y = 40 \text{ ksi}$  (ASTM A15-66)
3. Concrete strength for all columns to be  $f'_c = 3000 \text{ psi}$  except as noted.
4. See remarks in column schedule for orientation of reinforcement  
(N - stronger reinf. in N & S faces)  
(E - stronger reinf. in E & W faces)



10-16-68

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STM

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EL

8-JK6-9

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PROJECT THE WORLD TRADE CENTER

TITLE CONCRETE COLUMN SCHEDULE

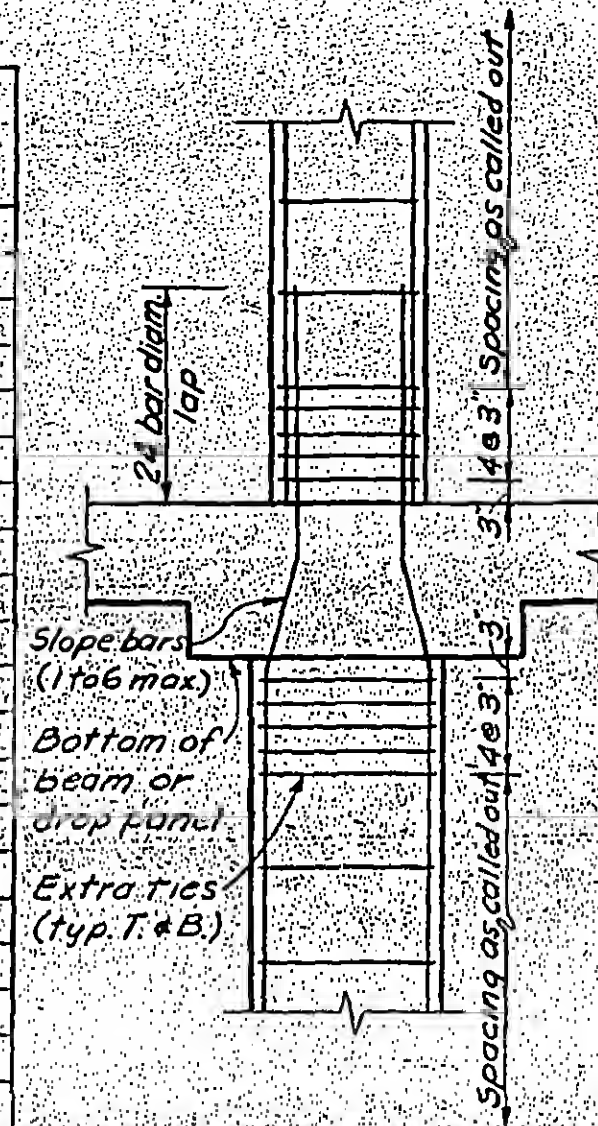
DATE 7-9-68

REVISIONS

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7-16-69

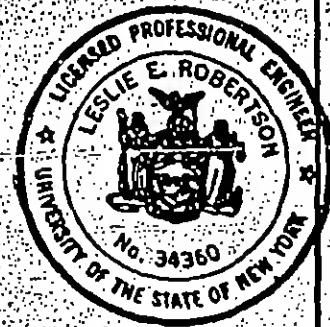
STORY	MK ITEMS	J-80-1	J-80-2	J-80-3	J-81-1	J-81-2	J-81-3
E1.299'-0"	Size						
	Vert. reinf.						
	Loads (kips)						
	Type						
E1.288.45'	Remarks						
	Size	18x18	See Sect. B-B 8-JK6-22	18x18	18x18	See Sect. B-B 8-JK6-22	18x18
	Vert. reinf.	4-#9	4-#9	4-#9	4-#9	4-#9	4-#9
	Loads (kips)	52	156	80	65		68
	Type	A	A	A	A	A	A
E1.267'-0"	Remarks						
	Size			18x18	18x18	18x18	18x18
	Vert. reinf.			4-#9	4-#9	4-#9	4-#9
	Loads (kips)			230	164	192	160
	Type			A	A	A	A
E1.253'-0"	Remarks						
	Size						
	Vert. reinf.						
	Loads (kips)						
	Type						
	Remarks						



TYPICAL COLUMN DETAIL

NOTES:

1. See 8-JK6-9 for column type & other notes.



10-16-68

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AF

REVIEWED

CEL

8-JK6-10.1



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TITLE CONCRETE COLUMN SCHEDULE

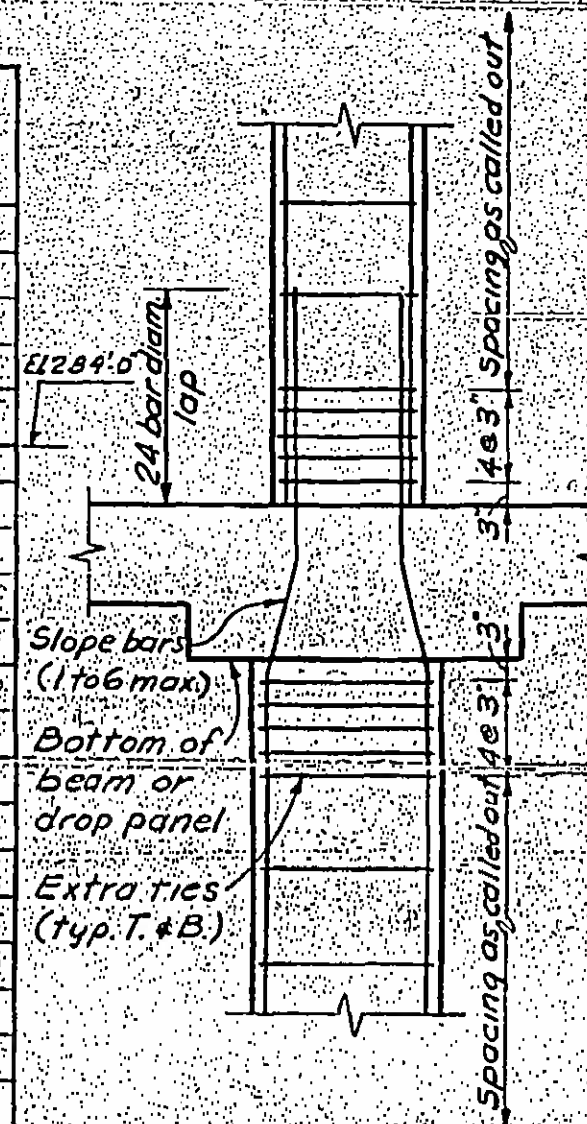
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STORY	ITEMS	J-82-1	J-82-2	J-82-3	J-82-4	J-83-1	J-83-2
E1.299'-0"	Size		18x18	18x18		18x18	18x18
	Vert. reinf.		4-#9	4-#9		8-#10	8-#11
	Loads (kips)		260	194		451	475
	Type		A	A		C	C
E1.288.45'	Remarks					N	N
	Size	18x18	See Sect. F-4 8-JK6-22	22x22	18x18	See Sect. G-8 8-JK6-22	18x18
	Vert. reinf.	4-#9	8-#10	12-#10	8-#9	16-#11	16-#11
	Loads (kips)	47	340	882	219	562	581
	Type	A	C	H	C	G	G
E1.267'-0"	Remarks		N	N	N		
	Size	18x18		18x18	18x18		18x18
	Vert. reinf.	4-#9		8-#10	4-#9		16-#11
	Loads (kips)	92		400	219		722
	Type	A		C	A		G
E1.253'-0"	Remarks			N			
	Size						
	Vert. reinf.						
	Loads (kips)						
	Type						
	Remarks						

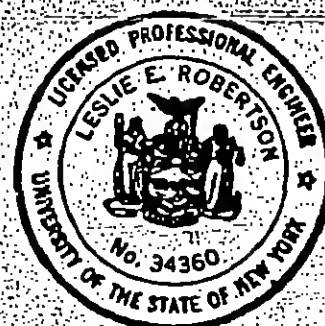


TYPICAL COLUMN DETAIL

NOTES:

1. See 8-JK6-9 for column type & other notes.

2.  $f_c = 4000$  psi



10-16-68

DRAWN  
A.F.

EL

8-JK6-10.2

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TITLE CONCRETE COLUMN SCHEDULE

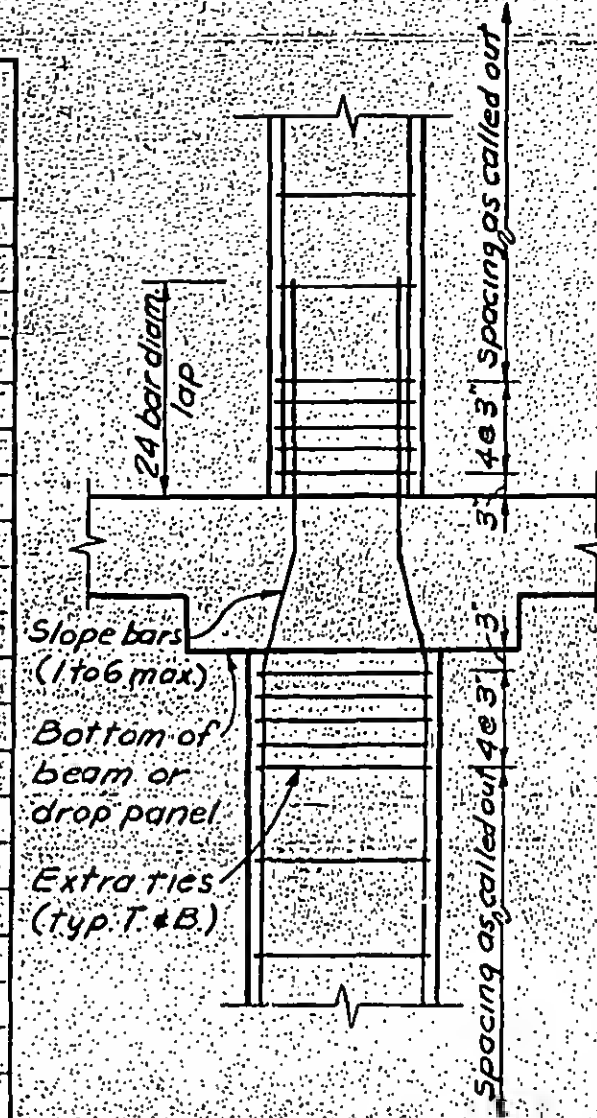
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11-4-69

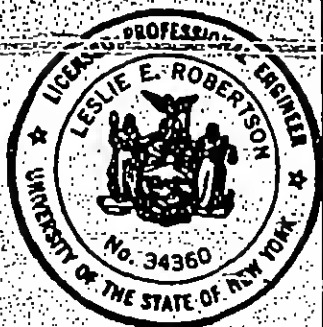
STORY	ITEMS	J-83-3	J-84-1	J-84-2	J-84-3	J-84-4	J-84-5
El. 299'-0"	Size	18x18	18x18	18x18	18x18	18x18	
	Vert. reinf.	4-#9	6-#10	8-#11	12-#10	8-#9	
	Loads (Kips)	186	361	484	537	350	
	Type	A	B	C	E	C	
El. 284'-0"	Remarks		N	N	N	N	
	Size	18x18	18x18	18x18	18x18	18x18	See Sect. H.H. 8-JK8-22
	Vert. reinf.	6-#10	12-#10	16-#11	16-#11	10-#10	4-#9
	Loads (Kips)	315	474	617	679	430	
	Type	B	E	G	G	D	A
El. 267'-0"	Remarks	N	N			N	
	Size	18x18	18x18	20x20	18x18	18x18	
	Vert. reinf.	10-#10	14-#11	16-#11	14-#10	4-#9	
	Loads (Kips)	427	620	822	548	150	
	Type	D	F	G	F	A	
El. 253'-0"	Remarks	N	N		N		
	Size						
	Vert. reinf.						
	Loads (Kips)						
	Type						
	Remarks						



TYPICAL COLUMN DETAIL

NOTES:

1. See 8-JK6-9 for column types & other notes.



10-16-68

Drawn

A.F.

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8-JK6-10.3



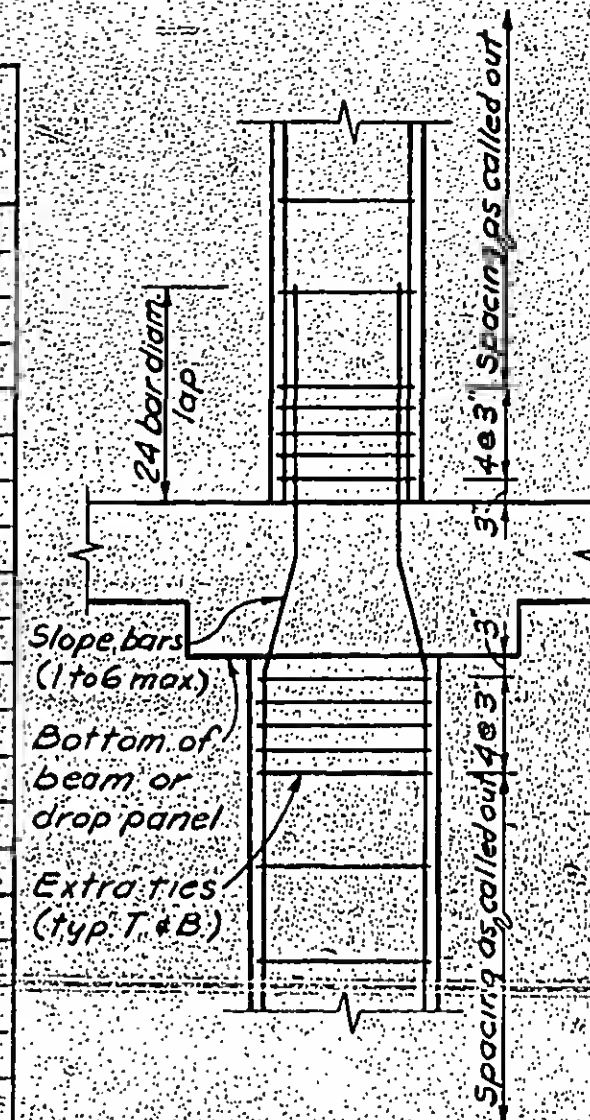
REVISIONS

3-7-69

3-16-70

6-11-70

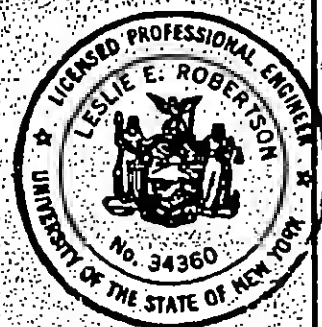
STORY	ITEMS	J-85-1	J-85-2	J-85-3	J-85-4		
E1.299'-0"	Size	18x18	18x18	* 18x18	* 18x18		
	Vert. reinf.	4-#9	4-#9	4-#9	4-#9		
	Loads (kips)	52	52	70	79		
	Type	A	A	A	A		
E1.284'-0"	Remarks						
	Size	18x18	18x18	18x18	18x18		
	Vert. reinf.	4-#9	4-#9	4-#9	4-#9		
	Loads (kips)	65	65	134	130		
	Type	A	A	A	A		
E1.267'-0"	Remarks						
	Size		18x18				
	Vert. reinf.		4-#9				
	Loads (kips)		112				
	Type		A				
E1.253'-0"	Remarks						
	Size						
	Vert. reinf.						
	Loads (kips)						
	Type						
	Remarks						



TYPICAL COLUMN DETAIL

NOTES:

1. See 8-JK6-9 for column types & other notes.
2. \* — Top of column at E1.299'-0"



DRAWN

AF

REVIEWED

EL

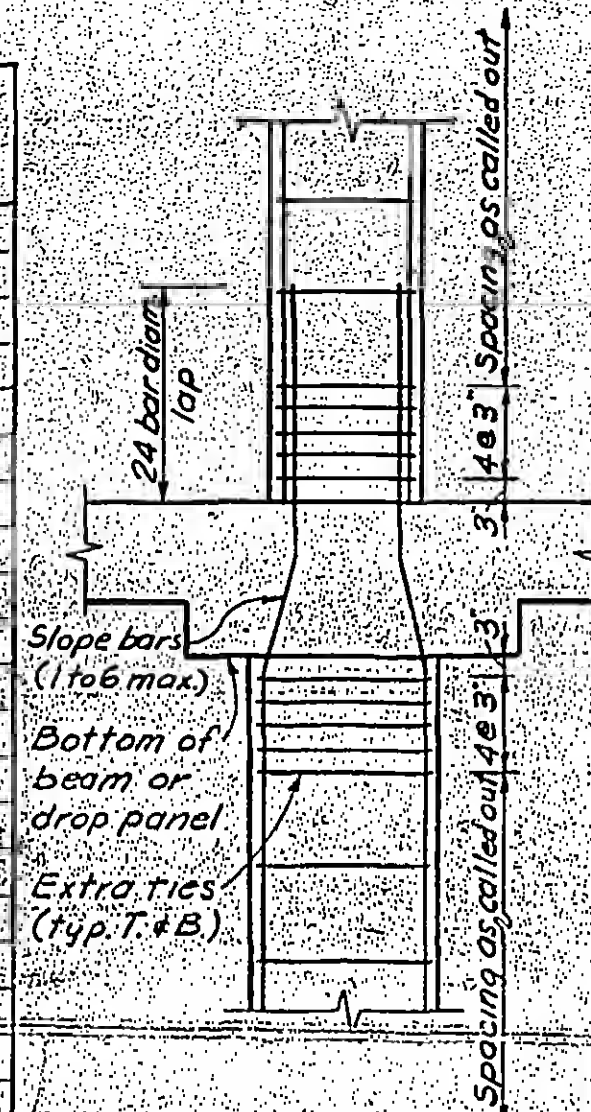
8-JK6-10.4

REVISIONS

4-16-69

1-23-70

STORY	MK ITEMS	K-90-1	K-90-2		K-90-5	K-91-1
	Size					
	Vert. reinf.					
	Loads (kips)					
	Type					
	Remarks					
	Size					
	Vert. reinf.					
	Loads (kips)					
	Type					
El. 284'-0"	Remarks					
	Size					*18x18
	Vert. reinf.					6-#10
	Loads (kips)					343
	Type					1-B
El. 270'-0"	Remarks					N
	Size	20x20	20x20		20x20	18x18
	Vert. reinf.	*10-#11	*10-#11		*16-#11	14-#10
	Loads (kips)	336	336		693	470
	Type	D	D		G	F
	Remarks	N	N			N



TYPICAL COLUMN DETAIL

NOTES:

- See 8-JK6-9 for column types & other notes.
- \* Extend all bars into 27" wall above.  
Top of bars at El. 273'.
- \*\* Top of column at El. 284'.



10-16-68

DRAWN  
S.C.

REVIEWED

8-JK6-10.5



PROJECT THE WORLD TRADE CENTER

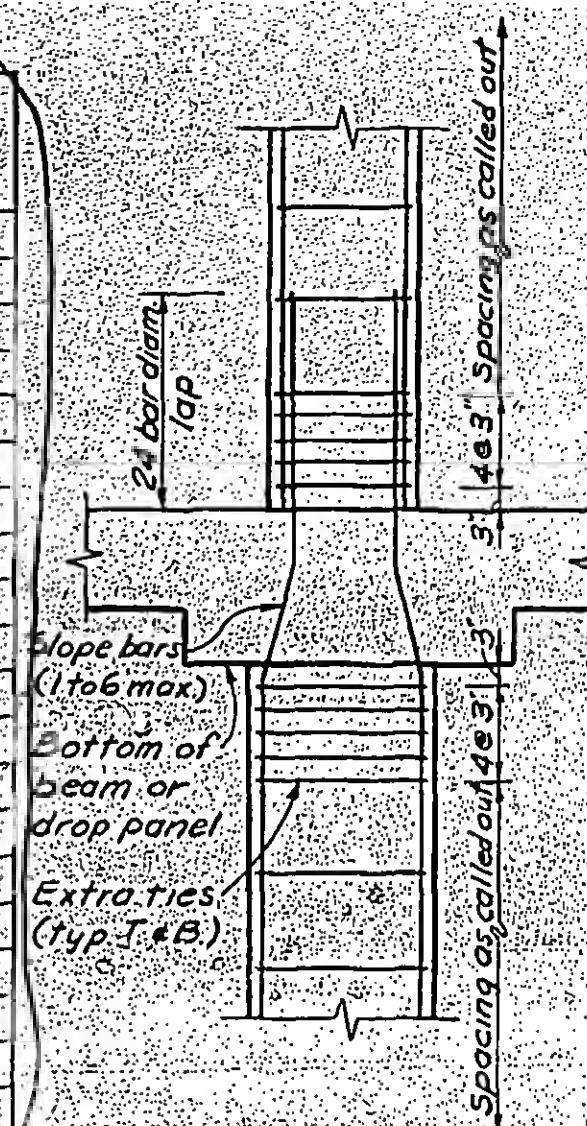
TITLE CONCRETE COLUMN SCHEDULE

DATE 7-9-68

REVISIONS

4-16-69

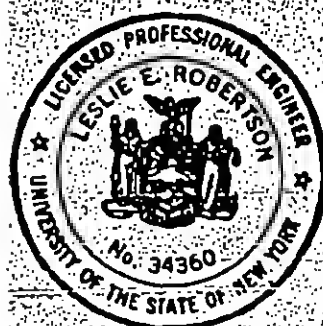
STORY	MK. ITEMS	K-91-2	K-91-3	K-91-4	K-91-5	K-91-6	
	Size						
	Vert. reinf.						
	Loads (kips)						
	Type						
E1.300'-0"	Remarks						
	Size						
	Vert. reinf.						
	Loads (kips)						
	Type						
E1.284'-0"	Remarks						
	Size	18x18	18x18		18x18		
	Vert. reinf.	8-#11	8-#11		12-#11		
	Loads (kips)	405	414		558		
	Type	C	C		E		
E1.270'-0"	Remarks	N	N		N		
	Size	18x18	18x18	18x18	18x18	18x18	
	Vert. reinf.	14-#11	14-#10	14-#11	16-#11	4-#9	
	Loads (kips)	529	462	515	558	106	
	Type	F	F	F	G	A	
	Remarks	N	N	N			



TYPICAL COLUMN DETAIL

NOTES:

1. See 8-JKG-9 for column type & other notes.
2. \*\* Top of column at E1.284'
3. ▲ Top of column at E1.270'



10-16-68

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S.C.

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E.L.

8-JKG-10.6

PROJECT THE WORLD TRADE CENTER

TITLE CONCRETE COLUMN SCHEDULE

DATE 7-9-68

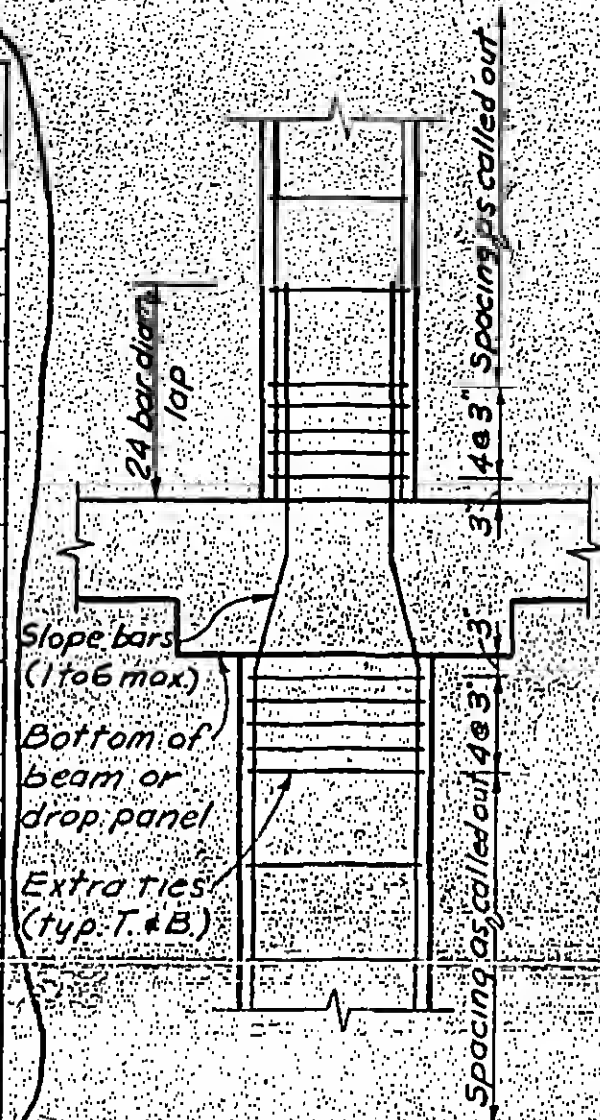
REVISIONS

4-16-69

STORY	MK ITEMS	K-92-1		K-92-2					
		Size		Size					
E1300'-0"	Vert. reinf.								
	Loads (kips)								
	Type								
	Remarks								
E1284'-0"	Size	18x18		18x18					
	Vert. reinf.	6-#10		6-#10					
	Loads (kips)	355		342					
	Type	B		B					
	Remarks	N		N					
E1270'-0"	Size	18x18		18x18					
	Vert. reinf.	8-#11		8-#11					
	Loads (kips)	460		434					
	Type	C		C					
	Remarks	N		N					
	Size	18x18		18x18					
	Vert. reinf.	16-#11		14-#11					
	Loads (kips)	566		545					
	Type	G		F					
	Remarks			N					

NOTES:

1. See 8-JK6-9 for column type & other notes.



TYPICAL COLUMN DETAIL



10-16-68

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E.L.

8-JK6-10.7



WORTHINGTON, SKILLING, HELLE & JACKSON

Civil & Structural Engineers

PROJECT THE WORLD TRADE CENTER

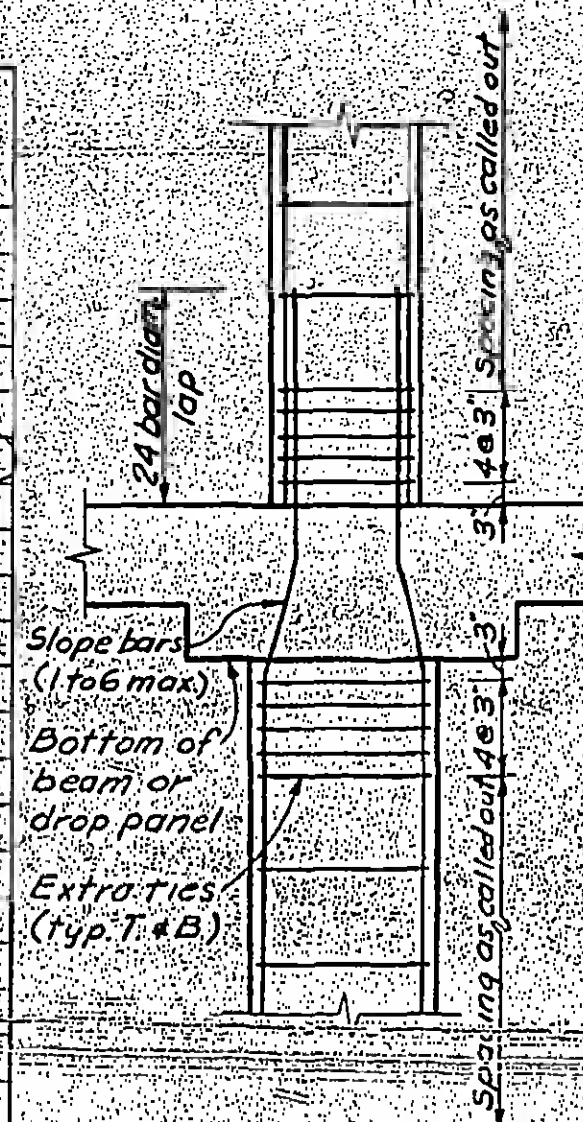
TITLE CONCRETE COLUMN SCHEDULE

DATE 4-16-69

REVISIONS

1-23-70

STORY	MK ITEMS	K-93-1	K-93-2	K-93-3	K-93-4	K-93-5	K-93-6
	Size						
	Vert. reinf.						
	Loads (kips)						
	Type						
El. 294'-0"	Remarks						
	Size	20x20	20x20	20x20	20x20	20x20	20x20
	Vert. reinf.	4-#9	4-#9	4-#9	4-#9	4-#9	4-#9
	Loads (kips)	300	203	218	210	190	278
	Type	A	A	A	A	A	A
El. 284'-0"	Remarks						
	Size	20x23 1/2	20x20	20x20	20x23 1/2	20x23 1/2	20x23 1/2
	Vert. reinf.	6-#11	4-#9	4-#9	4-#9	4-#9	4-#9
	Loads (kips)	369	250	268	258	234	278
	Type	B	A	A	A	A	A
El. 274'-0"	Remarks	N					
	Size						
	Vert. reinf.						
	Loads (kips)						
	Type						
	Remarks						



TYPICAL COLUMN DETAIL

NOTES:

1. See B-JKG-9 for column type & other notes.
2. Size b x d indicates b in N-S direction  
d in E-W direction
3. Provide dowels from 27' wall below to match the reinf. in columns above El. 274'. Bottom of dowels at El. 271'.



10-16-68

DRAWN  
S.C.

REVIEWED  
E.P.

B-JKG-10-B

PROJECT THE WORLD TRADE CENTER

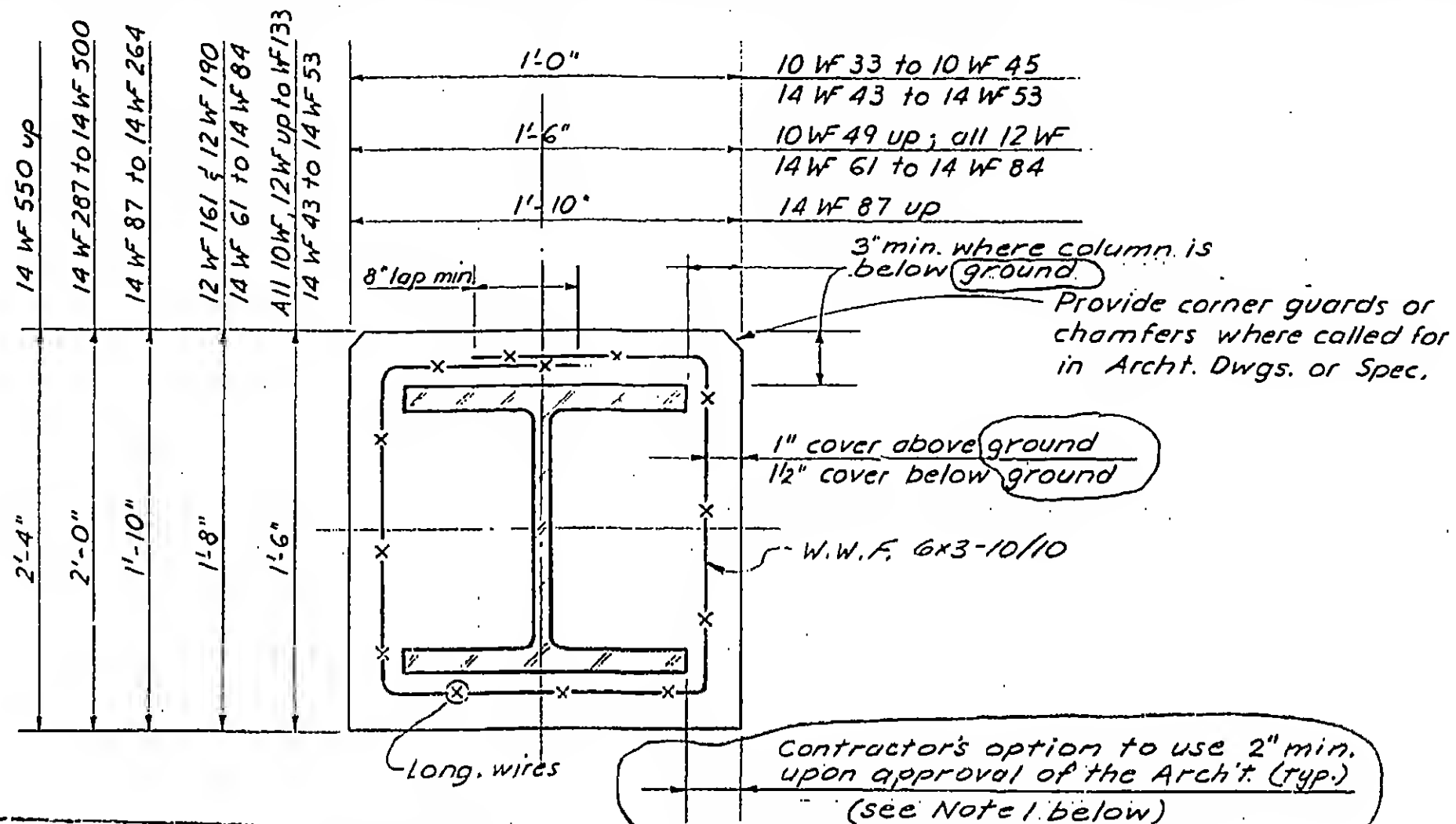
TITLE CONCRETE ENCASEMENT OF STEEL COLUMNS

DATE 5-1-68

## REVISIONS

10-21-68

4-9-69



### Detail A

### Concrete Encasement to Steel Column

(f'c = 2500 psi)

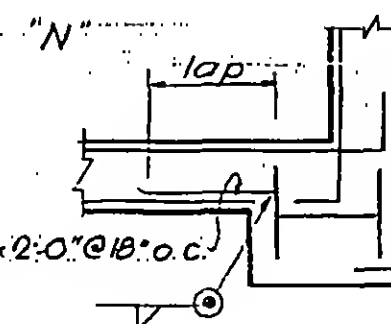
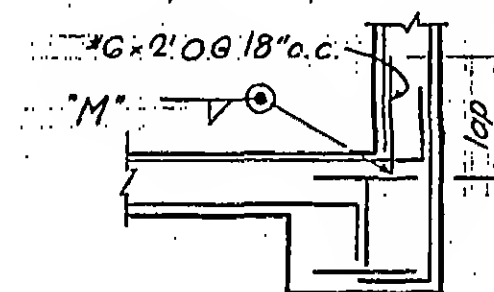
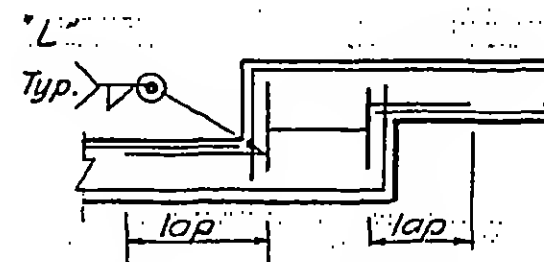
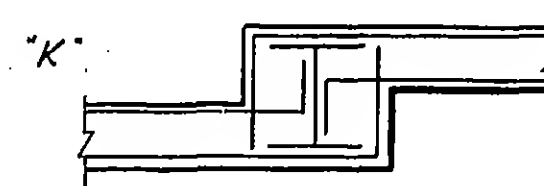
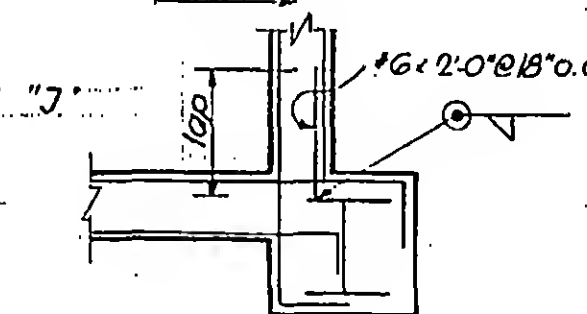
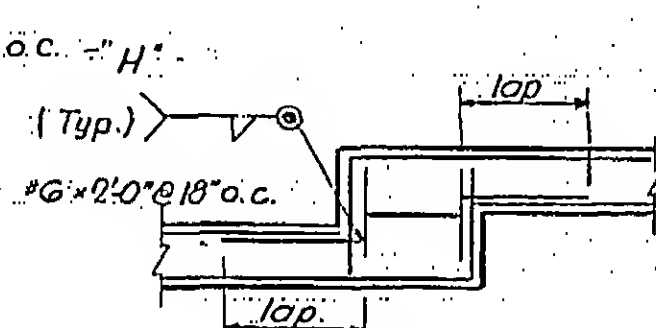
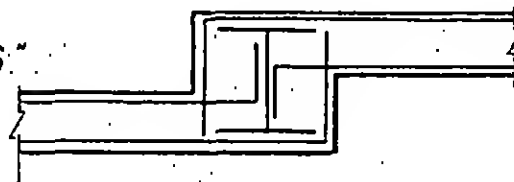
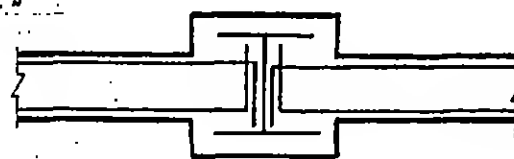
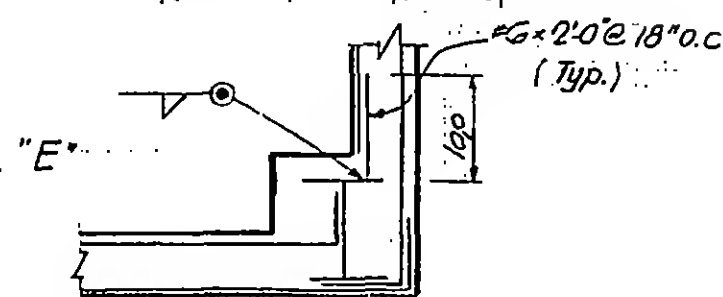
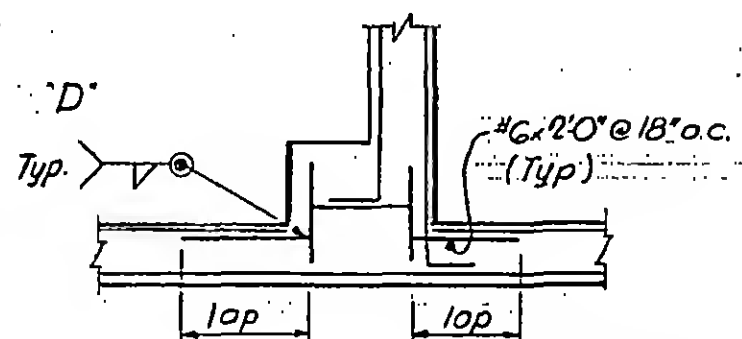
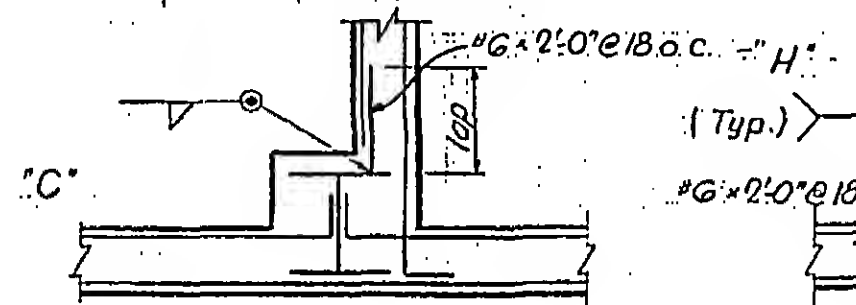
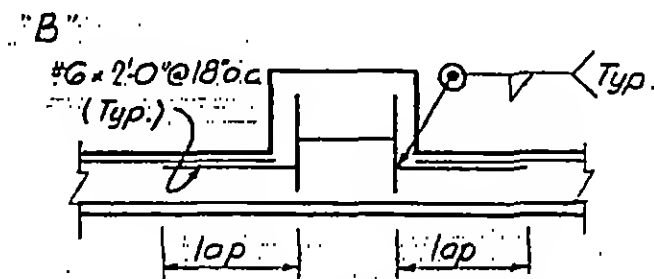
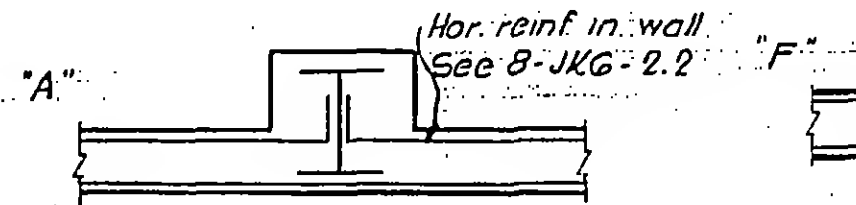
Note:

1. Dimensions do not apply where otherwise shown in Plans & Details or special sizes as shown on Archt. Dwgs.
2. See 8-JK6-11.2 and 11.3 for Detail of conc. Walls at Steel Columns
3. Conc. encasement for steel cols. are req'd for all cols. below floor of El. 310, except otherwise noted

DRAWN  
S.C.REVIEWED  
E.L.

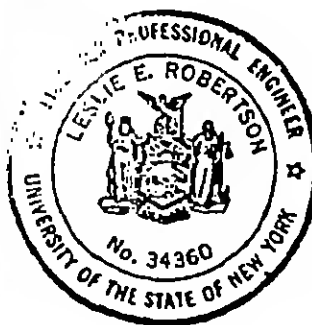
8-JK6-11.1

## REVISIONS



## Notes:

1. WWF Reinf. around col. not shown, see Det. on 8-JKG-11.1
2. All welds to be 4"
3. All lap shown to be 1'-10" min.
4. Wall Reinf. see 8-JKG-2.2
5. All hooks shown are 90° Std. hooks, except as shown.
6. See 8-JKG-11.3 for walls with single curtain Reinf.



SKILLING - HELLE - CHRISTIANSEN - ROBERTSON

Structural & Civil Engineers

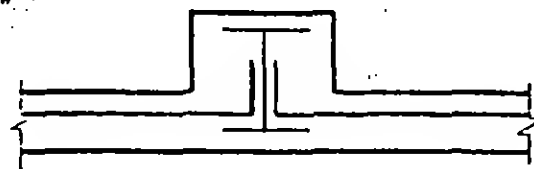
PROJECT THE WORLD TRADE CENTER

TITLE TYP. DETAIL OF CONC. WALL AT STEEL COL. - SINGLE CURTAIN

DATE 5-1-68

REVISIONS

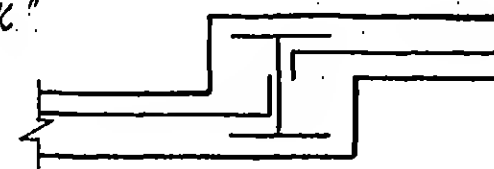
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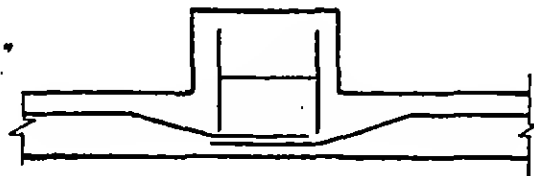
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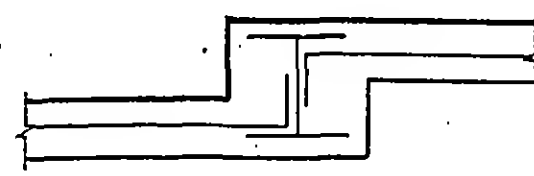
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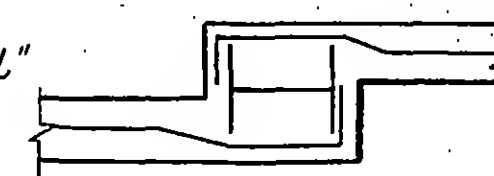
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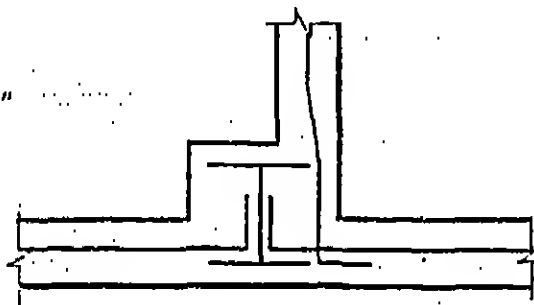
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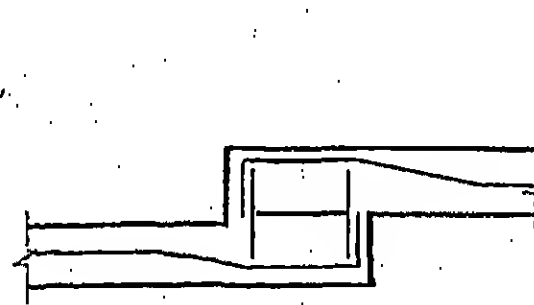
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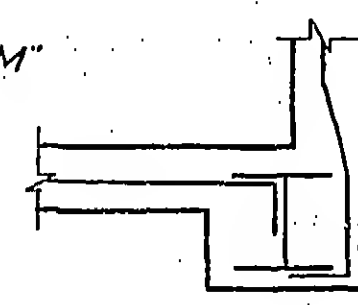
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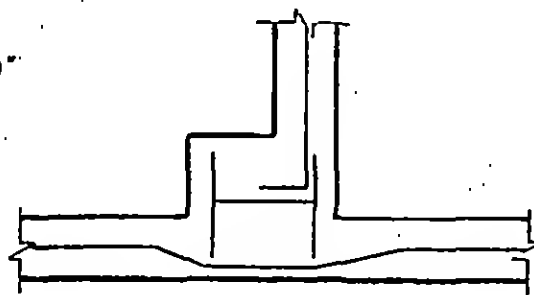
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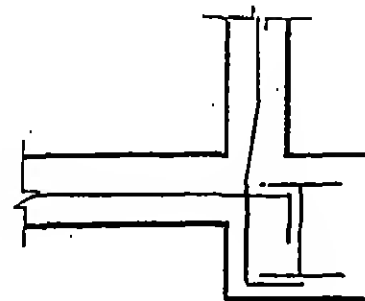
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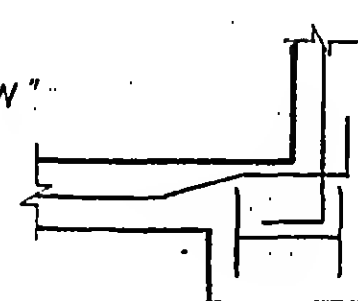
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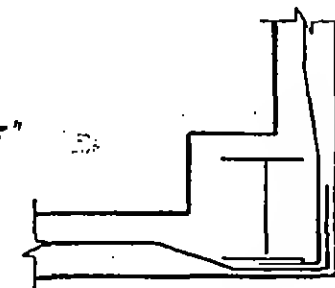
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"N"

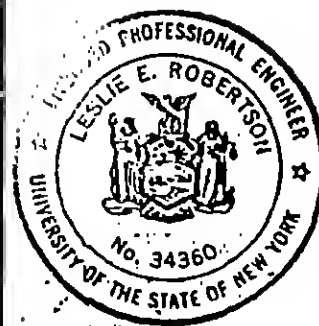


"E"



Notes:

1. WWF Reinf. around col. not shown, see Detail on 8-JKG-11.1
2. Wall reinf. see 8-JKG-2.2
3. All Hooks shown are 90° Std. Hooks except as shown.
4. See 8-JKG-11.2 for walls with double curtain reinf.



8-JKG-11.3

24-1066-LEPA